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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,780	04/14/2004	Yasuyuki Kojima	101077.53988US	4691

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EXAMINER

KOCA, HUSEYIN

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/823,780

Applicant(s)

KOJIMA ET AL.

Examiner

Huseyin Koca

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08/24/2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/24/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 4/14/2004.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

- Reference characters "1a to 1b" (page 6, line 18) and "1a to 1c" (page 7, line 11) have both been used to designate outdoor units.
- Reference characters "2a to 2l" (page 6, line 19) and "2a to 1l" (page 12, lines 1-2) have both been used to designate indoor units.
- Reference characters "40a" (page 14, line 19) and "401" (page 14, line 24) have both been used to designate microcomputer.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- 12 in Fig. 1 and Fig. 8

- S153, S162, S171, and S172 in Fig. 3
- 411 in Fig. 6
- 508 and 509 in Fig. 9
- 610, 611, 612, 613, and 614 in Fig. 10
- S650, S651, S660, S661, S662, S671, S672, S681, and S682 in Fig. 11

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "40a" (page 14, line 19). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be

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labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities:

- Reference numbers are missing in Specification for three-phase transformer (page 7, line 3) and three-phase power line (page 7, line 4).

Applicant should continue to use reference numbers when referring to items in figures through out the "Description of the Embodiments" to be consistent. For example, reference numbers 2a to 2l denote indoor units (page 6, line 19) and later reference numbers are not used when mentioning indoor units (page 7, line 23, 27). Same issue also applies for outdoor units and might exist for others. Applicant is remind to use reference numbers when referring to items in figures through out the document.

Appropriate correction is required.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

***Claim Rejections - 35 USC § 102***

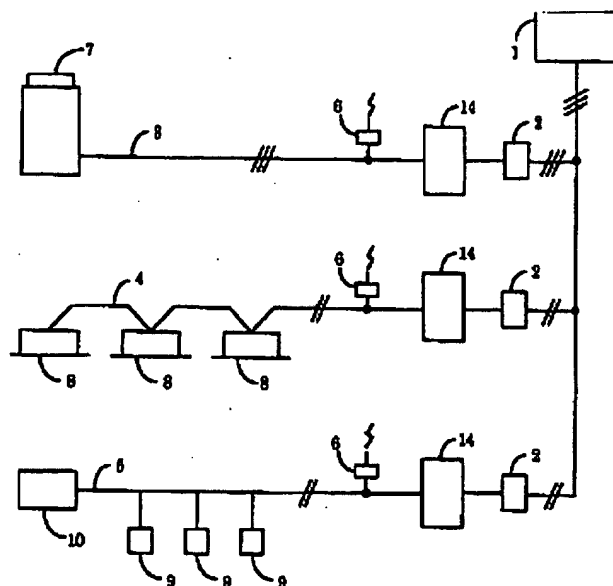
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 and 2 are rejected under 35 U.S.C. 102(a) as being anticipated by Bunkou et al. (JP-A-2002-243248).

In regard to claim 1, referring to Fig. 1, Bunkou et al. teach an air conditioning system having indoor units (8), an outdoor unit (7), and a system controller (10) for controlling the indoor or the outdoor unit by executing communications as transmitting a signal via power line supplying electric power (0018, line 1; 0024, line 2-8). Bunkou et al. teach a line that is used for connecting the outdoor unit with the system controller. This line corresponds to the claimed leased communication line and is taught in "Detail Description of the Invention" (0015, line 12; 0025, lines 1-2). Power line communication is provided from the indoor unit via power line (0019, line 5-8). A bridge (6) is used for connecting the communication lines (0020, line 3-8). The control information is exchanged mutually between the indoor unit, outdoor unit, and the system controller (0024, line 2-9).



**Fig. 1** – Drawing 1 from Bunkou et al. (JP-A-2002-243248).

In regard to claim 2, Bonkou et al. supply electric power to the indoor unit through a single-phase power line and to the outdoor unit through three-phase power line. See Fig. 1 above where the single-phase power line is marked as (//) and the three-phase power line is marked as (///). The single-phase power line is connected with three-phase power line through leased communication path (0015, line 12-15).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 2, 4-7, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunkou et al. (JP-A-2002-243248), and further in view of Roh (U.S. Patent No. 6,430,953 B2).

In regard to claim 1, referring to Fig. 1, Bunkou et al. teach an air conditioning system having indoor units (8), an outdoor unit (7), and a system controller (10) for controlling the indoor or the outdoor unit by executing communications as transmitting a signal via power line supplying electric power (0018, line 1; 0024, line 2-8). Power line communication is provided from the indoor unit via power line (0019, line 5-8). A bridge (6) is used for connecting the communication lines (0020, line 3-8). The control information is exchanged mutually between the indoor unit, outdoor unit, and the system controller (0024, line 2-9). Bunkou et al. do not explicitly teach using a leased communication line. Roh teaches using leased communication line (50) for connecting outdoor unit with the system controller (C-3; L-7-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use leased communication line as taught by Roh, in Bunkou et al. system, in order to have faster data transfer rates.

In regard to claim 2, Bonkou et al. supply electric power to the indoor unit through a single-phase power line and to the outdoor unit through three-phase power line. See Fig. 1 above where the single-phase power line is marked as (//) and the three-phase power line is marked as (///). The single-phase power line is connected with three-phase power line through leased communication path (0015, line 12-15).



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In regard to claim 4, Bunkou et al. teach that the bridge (6) provides protocol converting means (0015, line 8-12).

In regard to claim 5, Bunkou et al. teach that the bridge (6) is served to pass only the data oriented for the indoor unit being connected with power line from the leased communication line to the power line side (0035, line 4-8).

In regard to claim 6, see claim 1 above.

In regard to claim 7, see claim 2 above.

In regard to claim 9, see claim 4 above.

In regard to claim 10, see claim 5 above.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunkou et al. (JP-A-2002-243248) and Roh (U.S. Patent No. 6,430,953 B2), and further in view of Wada (U.S. Patent No. 6,453,689 B2).

In regard to claim 3, Bunkou et al. teach that the bridge (6) provides storage (that can accept, retain, and read back one or more times) for the addresses (memory locations) of indoor and outdoor unit being connected with the bridge and an address of another bridge is connected with the addresses of indoor and outdoor unit(0015, line 6-12). The bridge performs conversion between the addresses for the leased communication line and the addresses for said power line (0015, line 6-12). Bunkou et al. do not explicitly teach the details of having address and storage. Wada provides storage means for storing the address of the operating or controlling units (C-3; L-19-26). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide storage where the addresses of the operating/controlling

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units as taught by Wada is used in Bunkou et al. air conditioning system to exchange information between the devices.

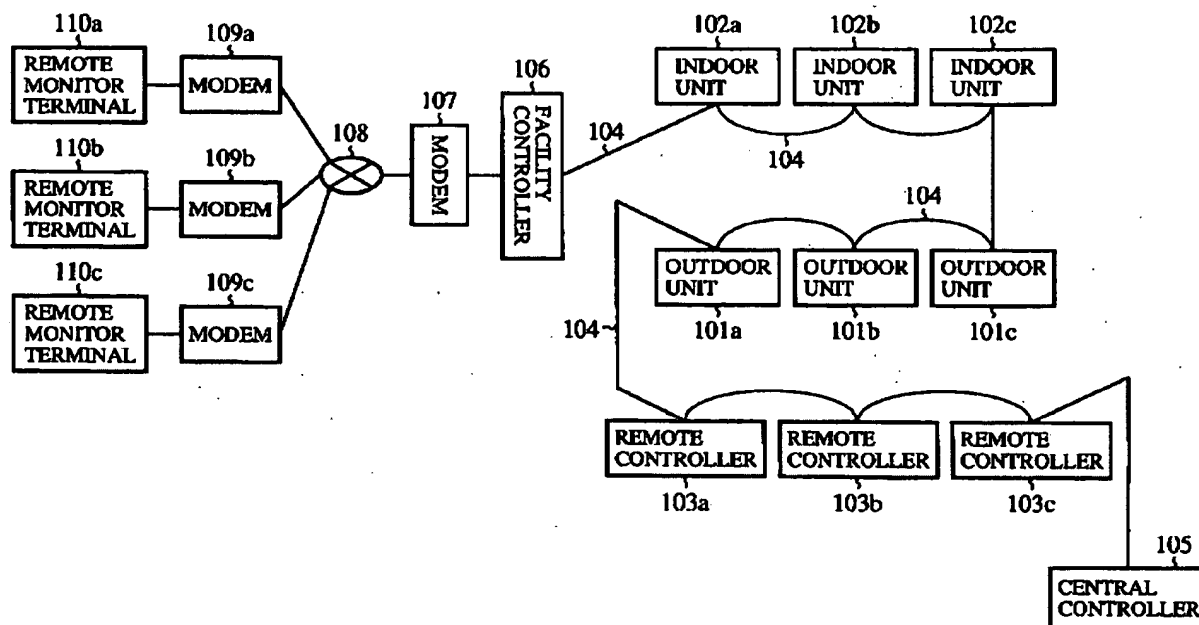
In regard to claim 8, see claim 3 above

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunkou et al. (JP-A-2002-243248) and Roh (U.S. Patent No. 6,430,953 B2), and further in view of Masui et al. (U.S. Publication No. 2003/0140637 A1).

In regard to claim 11, referring to Fig. 1, Bunkou et al. teach an air conditioning system having indoor units (8), an outdoor unit (7), and a system controller (10) for controlling the indoor or the outdoor unit by executing communications as transmitting a signal via power line supplying electric power. Power line communication is provided from the indoor unit via power line (0019, line 5-8). A bridge (6) is used for connecting the communication lines (0020, line 3-8). The control information is exchanged mutually between the indoor unit, outdoor unit, and the system controller (0024, line 2-9). Bunkou et al. do not explicitly teach using leased communication line or high-speed communication device. Roh teaches using leased communication line (50) for connecting outdoor unit with the system controller (C-3; L-7-10) and provides high-speed communication (40) via a server (C-3; L-2-6). Roh does not explicitly teach using a modem for high-speed communication means. Masui et al. teach using modem (107) for high-speed communication and provide an adapter which connects to high speed communication line and the power line (0004, 0005). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a high speed

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communication as taught by Masui et al. and Roh, in Bunkout et al. system to transfer data faster.



**Fig. 2** – Figure 57 from Masui et al. (US 2003/0140637 A1)

In regard to claim 12, see claim 2 above as they cite similar subject matter.

In regard to claim 13, see claim 4 above as they cite similar subject matter.

In regard to claim 14, see claim 5 above as they cite similar subject matter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huseyin Koca whose telephone number is (571) 272-3048. The examiner can normally be reached on Monday - Friday 8:30AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HK

  
CHERYL TYLER  
SUPERVISORY PATENT EXAMINER